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MONTHLY NOTICES

OF THE

ROYAL ASTRONOMICAL SOCIETY.

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SIR R. S. BALL, LL.D., F.R.S., PRESIDENT, in the Chair

William James Stewart Lockyer, M.A., Ph.D., 16 Penywern Road, South Kensington, S.W.,

was balloted for and duly elected a Fellow of the Society.

The following Candidates were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended :—

Samuel Cooke, M.A., Principal of the College of Science, Poona, India, 2 Mortimer Road, Clifton, Bristol (proposed by Sir R. S. Ball) ;
Thomas Charlton Hudson, B.A., Assistant, Nautical Almanac Office, 3 Verulam Buildings, Gray's Inn, W.C. (proposed by A. M. W. Downing) ;
David Hunter, John O'Groat's Villa, Cambuslang, Glasgow (proposed by John Dansken) ;
Alfred E. Larkman, Navigation Teacher, 56 Colville Road, Leytonstone, E. (proposed by W. E. Plummer) ;
Edmund Taylor Whittaker, B.A., Fellow of Trinity College, Cambridge (proposed by Sir R. S. Ball) ;
Walter Wickham, First Assistant, Radcliffe Observatory, Oxford (proposed by A. A. Rambaut).

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Eighty presents were announced as having been received since the last meeting, including, amongst others :—

A 3¼-inch Equatorial Telescope, by Ross, with tripod stand, micrometer, &c., presented by Mrs. Mann ; W. F. Denning, The Great Meteoric Shower of November ; C. E. Peek, Variable Star Notes, No. 2 ; G. Johnstone Stoney, On Atmospheres upon Planets and Satellites, presented by the Authors ; Bonn Observatory, Eigenbewegungen von 335 Sternen, von F. Küstner ; Lick Observatory, Photographic Atlas of the Moon, plates 6–19, presented by the Observatories ; Photographs of nebulæ made with 24-inch reflector (lantern slides), presented by Mr. W. E. Wilson.

A determination of the Latitude-Variation and of the Constant of Aberration, from observations made at the Royal Observatory, Cape of Good Hope, 1892–94. By W. H. Finlay, M.A.

In the early part of 1892 a series of observations with the zenith telescope was commenced by Dr. Gill, for the purpose of determining the latitude-variation at the Cape, and the constant of aberration ; but pressure of other work led him to transfer the investigation to me at the end of the year.

Observations were continued throughout 1893 and 1894, but no use has been made of those taken after 1894 April. At this date the ether in the level suddenly evaporated to such an extent as to render work impossible. An attempt was made to refill the tube on the spot and observations were continued, but the result was not satisfactory : the bubble became very sluggish and sticky in places, so that the observations after this operation are affected with large accidental errors, and are not nearly comparable in accuracy with the earlier ones. Indeed, it may be said that the level was a weak point all through.

The value of one revolution of the micrometer-screw was determined from a number of transits of close polar stars at elongation, and the screw errors were carefully investigated.

Three groups of stars, each consisting of three pairs, were selected at R.A. 7^h, 15^h, 23^h respectively, and another three at R.A. 3^h, 10^h, 19^h. The programme laid down was that eight observations of one of these groups should be made soon after sunset, and eight of another before sunrise, as nearly as possible on the same dates. Care was also taken to secure as many sets starting "lamp east" as starting "lamp west." The total number of pairs observed was 621.

The reductions to apparent place were interpolated for the time of transit, and the small terms depending on the Moon's longitude were taken into account. The proper motions were

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